US ARMY CORPS
OF ENGINEERS
New England District

Contract No. DACW33-01-D-0004
Delivery Order No. 02
December 2002

Final

ENVIRONMENTAL IMPACT STATEMENT WORKPLAN

RHODE ISLAND REGION LONG-TERM DREDGED MATERIAL DISPOSAL SITE EVALUATION PROJECT

FINAL

Environmental Impact Statement Workplan

Rhode Island Region
Long-Term Dredged Material Disposal Site Evaluation Project

Contract Number DACW33-01-D-0004
Project Number Delivery Order No. 02

to

U.S. Army Corps of Engineers
North Atlantic Division
New England District
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Battelle Program Manager, Karen Foster	Date:
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Battelle Program QA Officer, Rosanna Buhl	Date:

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DISTRIBUTION LIST

This document will be distributed to the following project participants once all approval signatures have been received:

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Battelle staff and subcontractors	These will be added on an as-needed basis.

ACRONYMS AND KEYWORDS

The following list of acronyms and keywords is intended to be a guide to authors in preparing the EIS and other project documentation. It is not intended to be the complete list of the acronyms. During the preparation of the EIS, and other documentation, this list will be extended. A complete list of acronyms will be included in the draft and final EIS documents.

ADDAMS	Automated Dredging and Disposal Alternatives Management System
APA	Administrative Procedures Act
APHA	American Public Health Association
ASTM	American Society for Testing and Materials
BDO	Battelle Duxbury Operations
BIOS	Biological database attached to STORET (EPA)
BSL	Battelle Sequim Laboratory
CEQ	Counsel of Environmental Quality
CFR	Code of Federal Regulations
Corps	United States Army Corps of Engineers, New England District
CWA	Clean Water Act (Federal Water Pollution Control Act a.k.a the Clean Water Act)
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DAMOS	Disposal Area Monitoring System (Corps)
DEIS	draft environmental impact statement
DM	dredged material
DRP	Dredging Research Program (Corps)
EIS	environmental impact statement
EPA	Environmental Protection Agency
EPA Region 1	Environmental Protection Agency, Region 1
ESRI	Environmental Systems Research Institute, Inc.
FEIS	final environmental impact statement
FWS	[U.S.] Fish and Wildlife Service (Department of the Interior)
GIS	geographic information system
JODCC	Joint Ocean Dumping Coordinators Committee (EPA and the Corps)
LC 72	London Convention (Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, December 29, 1972)
LTFATE	long-term fate of dredge material disposal in open water
LTMS	Long Term Monitoring Strategy

MMS	Minerals Management Service (Department of the Interior)
MPRSA	Marine Protection, Research, and Sanctuaries Act of 1972
NEPA	National Environmental Policy Act
NIST	National Institute of Standards and Technology
NMFS	National Marine Fisheries Service
NMSP	National Marine Sanctuaries Program
NOA	notice of availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NRCC	National Research Council of Canada
NTIS	National Technical Information Service
NTP	Notice to Proceed
O&M	operation and maintenance
ODDBS	Ocean Dumping Database System (EPA)
ODES	Ocean Disposal Evaluation System
ODMDS	Ocean Dredged Material Disposal Site
OFA	Office of Federal Activities, EPA
OMB	Office of Management and Budget
ppb	parts per billion (*i.e.*, ng/g, µg/kg, ng/L)
ppm	parts per million (*i.e.*, µg/g, mg/kg, µg/L)
PN	public notice
QA/QC	Quality assurance/quality control
QAPP	Quality Assurance Project Plan
QMP	Quality Management Plan
RIR	Rhode Island Region
ROD	record of decision
SHPO	State Historical Preservation Officer
Site 16	Brenton Reef
Site 18	Brenton-A
Site 69A	Jamestown Bridge Reef
Site 69B	Separation Zone Site
SMMP	Site Management and Monitoring Plan
SOF	statement of findings
SOP	standard operating procedure
SOW	Scope of Work
STFATE	short-term fate of dredge material disposal in open water

STORET	storage and retrieval of water quality data (EPA database)
USCG	United States Coast Guard
WRDA92	Water Resources Development Act of 1992 (Public Law 102-580)
ZSF	zone of siting feasibility

"Dredged material disposal" is the terminology that should be used instead of "dredged material dumping", except for legislative language. Also, "dredged material" should be used instead of "dredged spoil".

1.0 INTRODUCTION

This project will support the evaluation of potential designation of one or more dredged material disposal sites in the waters of Rhode Island Region (RIR) and southeastern Massachusetts region under Section 102 (c) of the Marine Protection, Research and Sanctuaries Act (MPRSA). An Environmental Impact Statement (EIS) will be prepared in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] 1500 et. seq.), and the U.S. Environmental Protection Agency (EPA)/U.S. Army Corps of Engineers (Corps) Ocean Dumping Site Designation Handbook and MPRSA site designation criteria (40 CFR 228.5 and 228.6).

Prior to the preparation of the EIS document, Battelle has been tasked with preparing a quality control document, which presents a set of guidelines for authors and reviewers. This document, referred to as the work plan, provides a summary of the technical approach to be used in preparation of the EIS, including:

- EIS terminology.
- Assessment of data usability.
- Writing style requirements.
- Document review process.
- Schedule of milestones and deliverables.
- Project organization.
- Quality Assurance/Quality Control processes.
- List of project deliverables.
- Project Scope of Work.
- RIR EIS Outline.

1.1 PROJECT BACKGROUND

There are many harbors, channels and navigation dependant facilities in Rhode Island and southeastern Massachusetts that must undergo periodic maintenance dredging to ensure safe navigation. Some harbors occasionally must be deepened or expanded beyond historical depths/dimensions to meet changing economic and safety needs. Many of these necessary public and private dredging projects have not been accomplished due to the unavailability of disposal sites for dredged material. In other cases, sites on land have been used and the agency or permit applicant had no alternative but to transport the dredged material outside of the project area, which can often increase the cost of the project substantially. Prior studies directed at resolving the dredged material disposal management problem in this area were limited in scope, addressing only the immediate disposal needs of a project pending at the time. EPA issued a Notice of Intent (NOI) on a similar action in July 1984. Although that study identified the need for a dredged material site in the Rhode Island/southeast Massachusetts area, local opposition at the time halted the project early in its planning stage. (CFR, 2001)

Designation of a site for long-term use must be performed under a separate designation process administered by EPA. The State of Rhode Island is currently in the process of identifying potential sites in Narragansett Bay for use by private marinas in the Bay area. Even if the state effort is successful, it is anticipated that there is need for a larger regional disposal site for bigger projects. Over the last two decades, a number of studies have confirmed the need for a regional site including two needs studies performed for each state in the late 1980's; a Rhode Island Governor directed task force (1993); and, a Rhode Island commission (1996). In response to recent requests of Governor Lincoln Almond and Senator Jack Reed, EPA and the Corps will perform an investigation to evaluate the potential designation of a long-term disposal site in Rhode Island Sound and adjacent waters under section 102(c) of the MPRSA in a forthcoming EIS [*i.e.*, the Rhode Island Region Long-Term Dredged Material Disposal Site Evaluation]. The EIS will [also] evaluate [potential] alternatives including other open water disposal sites, other disposal and management options, and the no action alternative. It must be emphasized here that designation of a site does not by itself authorize or result in disposal of any particular material. It only serves to make the designated site a disposal option available for consideration in the alternatives analysis for each individual dredging project in the area. Each future project must assess whether it meets the ocean disposal criteria for discharge at such a site and demonstrate the need for ocean disposal. (CFR, 2001)

The EPA has the responsibility of designating sites under Section 102(c) of the [MPRSA] and 40 CFR 228.4. The Corps, which has been funded for this effort, is responsible for conducting data collection and analysis, technical studies and public participation process of the EIS with EPA oversight. An EIS will evaluate a range of potential sites and adjacent waters, and the disposal and management of dredged material, including the no action alternative. The EIS will support the EPA's final decision on whether one or more dredged material disposal sites will be designated under the MPRSA. The EIS will include analysis applying the 5 general and 11 specific site selection criteria for designating ocean disposal sites presented in 40 CFR Parts 228.5 and 228.6, respectively. The Draft and Final EIS for the Providence River Dredging Project will serve as a starting point for further evaluation of sites in the EPA EIS. EPA will incorporate, by reference, to the extent possible all data and analyses developed by the Corps in the Providence River EIS, as well as supplement this with further studies. (CFR, 2001)

1.2 PROJECT OBJECTIVES

The objective of this study is to prepare a draft and final EIS for the Rhode Island Region Long-Term Dredged Material Disposal Site Evaluation Project.

2.0 EIS PREPARATION - TECHNICAL APPROACH

The Corps is funding the studies necessary to complete the EIS in a series of tasks. Several tasks have already been funded and are in progress or complete. These include:

- Task 1. Development of EPA-approved QAPP for field sampling and data analyses
- Task 4. Attendance at Public Scoping Meetings
- Task 5. Side Scan Sonar Information

- Task 6. Evaluation of Existing Physical Oceanography Data
- Task 7. Collection of Baseline Environmental Data (water quality, benthic community assessment, sediment chemistry, finfish chemistry, benthic tissue analysis, sediment toxicity, physical oceanography, bathymetric surveys)
- Task 8. Literature Review
- Task 9. Assessment of Fishing Uses of Potential Dredged Material Disposal Sites in Rhode Island Sound and Adjacent Waters
- Task 12. Dredging Needs Study
- Task 13. Zone of Siting Feasibility Determination

The task described in this workplan is Task 10: Preparation of an Environmental Impact Statement for the Rhode Island Sound Long-Term Dredged Material Disposal Site Study. The preparation of an EIS begins with the definition of the purpose and need for action, and is followed by the definition of the zone of siting feasibility and a review of the alternatives and affected environments. The outline for the RIR EIS was previously submitted to and approved by the Corps and EPA. The RIR EIS outline includes the following sections:

Cover sheet
Table of Contents
Executive Summary
1.0 Purpose and Need for Action
2.0 Alternatives
3.0 Affected Environment
4.0 Environmental Consequences
5.0 Feasibility of Surveillance and Monitoring
6.0 Agency Coordination and Compliance
7.0 Public Involvement
8.0 List of Preparers
9.0 References
10.0 Glossary of Terms
11.0 List of EIS Distribution to Agencies, Organizations, and Individuals
12.0 Index
Appendices

A detailed outline of the EIS is included in Appendix A.

The first three subtasks that have been awarded to Battelle under Task 10 include the preparation of a workplan for the EIS (Task 10.1), the preparation of the Purpose and Need section (Section 1.0) of the EIS (Task 10.2), the general sections for the Affected Environment section (Section 3.1 through Section 3.6) of the EIS (Task 10.3), and the General Impacts of Dredge Material Disposal section (Section 4.1) (Task 10.3). These sections/subsections were awarded to Battelle in the current Scope of Work, which is included in Appendix B of this workplan. The content of these sections/subsections is described in the Scope of Work.

2.1 WORKPLAN (TASK 10.1)

Under this subtask, Battelle is to prepare a quality control document for the EIS (this document). This document, referred to as the workplan, will provide consistency among writers of the EIS for terminology (*i.e.*, project title, geographic names, dumping vs. disposal, etc.), EIS outline numbering (limited to three levels), figure and table labeling, font/font size, sentence structure, and other items that will ensure a consistent, quality document. The EIS will be prepared in Microsoft Word. The internal review process of the draft sections is also described.

2.2 PREPARATION OF EIS SECTIONS

A systematic process will be followed in the preparation of the EIS sections by the various authors. This process is presented in Figure 1 and will consist of the following steps:

- Review of available data and reports.
- Synthesis of data/information in the form of tables and figures.
- Writing of working draft EIS sections.
- Response to Corps/EPA comments.
- Preparation of draft sections for agency review.

2.2.1 Review of Available Data

EIS authors will begin writing sections by first reviewing any available data collected under previous tasks. Several field studies were conducted in 2001 and 2002 under Task 7 to collect environmental baseline data at four candidate disposal sites (Sites 16, 18, 69A, and 69B) to fulfill the baseline monitoring requirements defined in the MPRSA and 40 CFR 228.13. These field studies obtained information on a contiguous area around each site. The field and laboratory data generated by these studies are currently stored in a Battelle database, which may be queried by Battelle database staff at the request of EIS authors.

The Corps also contracted Battelle to perform a literature search, under Task 8, to assess the extent of information available on each of the ecological and regulatory topics relevant to this study and defined by the Corps (Battelle, 2002a). Identified references were reviewed for relevance to the Rhode Island Region Long-Term Dredged Material Disposal Site Evaluation Project, categorized, and entered into a project-specific ProCite© literature database that is maintained on the Battelle computer network (K:\COE_NED_REBID\# 02 Rhode Island Sound EIS\Task 8 Lit Review Database\RIS Database). References were evaluated based on the following categories:

- Relevant with data (Category 1) – the reference includes data relevant to the topic area and a region. The data should be helpful in drafting the EIS and supporting documents.
- Relevant with no data (Category 2) – the reference is relevant to the topic area and a region, but is not a primary data reference.
- Not relevant (Category 3) – the reference is not relevant to the study.

The bibliographic information, content, subject topics and relevant MPRSA criteria were recorded on Document/Data Information Forms. The relevancy of the data to MPRSA criteria, the data quality, and any data gaps or need for further study were also documented during the relevancy assessment.

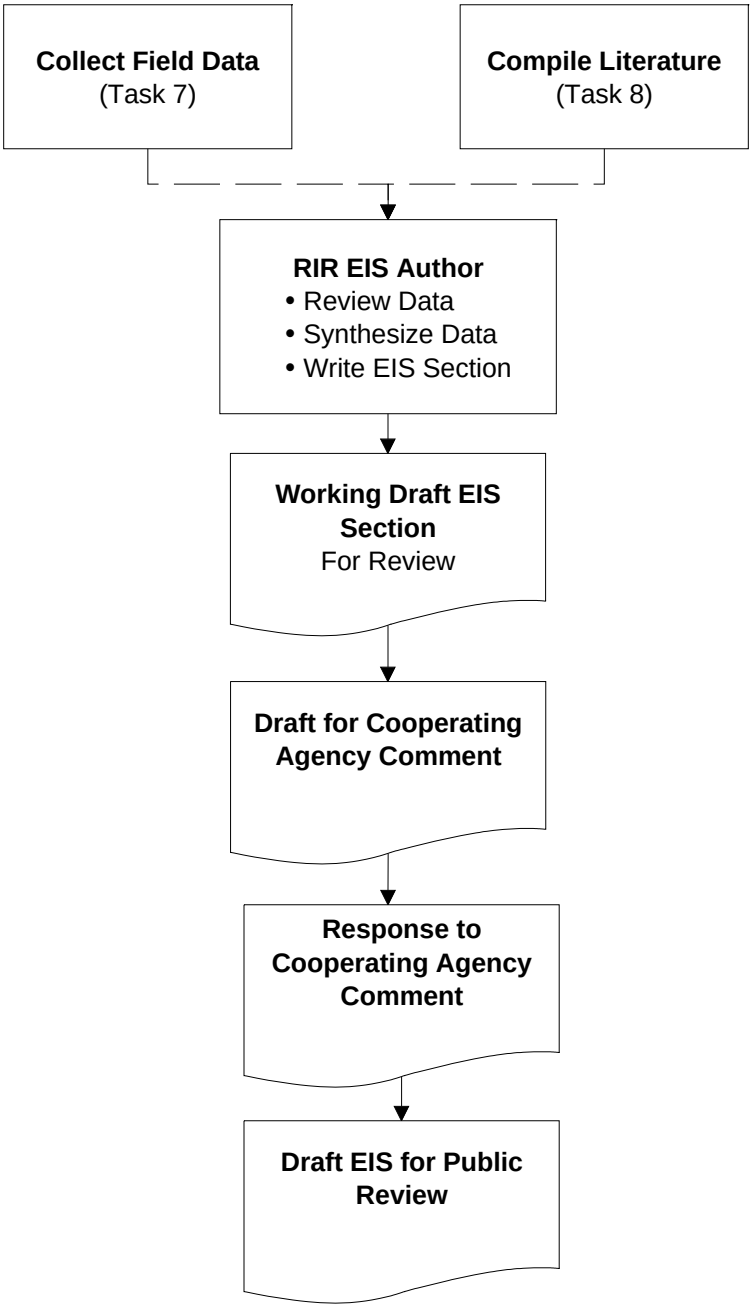

Figure 1. Process for Preparing EIS Sections.

Approximately 500 references identified in the literature search have been obtained by Battelle from various libraries. These are located in a project file controlled by Ms. Melissa Manley, Administrative Assistant, and cataloged in a ProCite© literature database. Hard copies of the references must be signed out with Ms. Manley for tracking purposes. Battelle will continue to collect references as identified throughout the EIS process. Most of the references listed in the database were reviewed and assessed for relevancy as described above, but some have not been located or collected. These references are available for review by the EIS authors in preparation of their respective sections. Ms. Manley will also be available to assist authors with additional literature searches. Additional data sources that are identified during the preparation of the EIS should be communicated to Ms. Manley, so that they may be added to the ProCite© database.

Data to be used in the preparation of the RIR EIS may come from several sources and may be documented in a variety of ways. Battelle authors will assess the usability of these data before they are used for the synthesis of data or text for the EIS. Guidance for assessing the usability of data is defined below.

Assessing Data Usability

The assessment of data usability is the responsibility of the respective technical authors. If data of a known and documented data quality are obtained directly from the source that originally generated the data, Battelle will accept these data as usable for the RIR EIS. If secondary data are collected from peer-reviewed literature sources, then Battelle will assess the quality and usability of this data for the RIR EIS based on best professional judgment. If secondary data were received without supporting background information, such as unknown methods or data quality, Battelle will attempt to contact the agencies or groups that originally generated the data and document the methods used and the data quality. Information provided by the agencies/groups will be used to evaluate the accuracy, precision, comparability, and representativeness of the data. If contact with the agencies/groups cannot be made, this fact will also be documented and best professional judgment will be used to assess the quality and usability of these data.

When assessing the usability of available data, the EIS authors should consider the following points:

- Are there non-quality constraints (*e.g.*, programmatic, legal, etc.) on the use of these data?
- Was a QAPP or workplan developed for the collection of these data?
- Are QA/QC information available for these data?
- Were standardized or comparable methods used in the collection of these data?
- What was the original intended use of these data?

2.2.2 Synthesis of Data

All data deemed to be usable and of acceptable quality will be used by EIS authors for their interpretation and data synthesis. The level of data analysis to be performed for the EIS will be set by the Corps and EPA.

Data Tables and Figures

EIS authors will produce all data tables and graphs using Microsoft Office compatible programs (*e.g.*, MS Word and MS Excel). Original figures must be saved as .tif file format and will be created in color but should be clearly readable in black and white. Electronic files and spreadsheets containing tables and figures should be given a descriptive name and must not be named "Table 1-1" or "Figure 5-2." EIS authors should not embed or insert figures or Excel tables into the draft text sections of the EIS but should make the figure files available to Production staff, who will perform this task. Within the section text, the author should clearly note the placement of all tables and figures by referring to both the table or figure numbers and titles. Tables and figures should appear either on the same page or immediately following the page on which the tables/figures are first referenced in the text.

Geographic Information System (GIS) Data

Maps will be produced for the RIR EIS using Environmental Systems Research Institute, Inc. (ESRI) ArcGIS Desktop software (*i.e.*, ArcView version 8.2). GIS data should be provided in ArcView compatible file formats (*e.g.*, .shp, .e00). GIS layers should include ESRI ArcGIS standard .prj files, which store the layer's projection information. Other information about a GIS layer (*i.e.*, metadata) should be included in an ESRI ArcGIS standard .xml metadata file.

2.2.3 Writing Style Requirements

The style requirements to be used by all authors in writing the EIS are presented in this section.

Title

The official project title is "Rhode Island Region Long-Term Dredged Material Disposal Site Evaluation Project". This title will be used in all project documentation.

Section Headers

Numbering of headers will be limited to three levels.

1.0 HEADING 1 – TIMES NEW ROMAN 14 PT. BOLD CAPS, CENTERED

1.1 Heading 2 – TIMES NEW ROMAN 12 PT. BOLD CAPS, Left justified

1.1.1 Heading 3 – Times New Roman 12 Pt. Bold Title Case, Left Justification

Heading 4 – (No numbering) Times New Roman 12 Pt. Italics Title Case, Left Justification

Each section will be assigned a section or subsection number and that section's paragraphs, figures captions, table captions, and page numbers will be numbered accordingly.

Text

Times New Roman 12 Pt., Left Justification

Figures and Tables

Figure and table numbers will be sequential within sections and identified as to section and then sequence.

Figure Captions (e.g., 1-1, etc.). Times New Roman 12 Pt. Bold Title Case, Centered <u>UNDER</u> Figure.

Table Captions (e.g., 1-1, etc.). Times New Roman 12 Pt. Bold Title Case, Centered <u>OVER</u> Table.

Table Column Headers – Times New Roman 12 Pt. Bold Title Case

Table Text – Times New Roman 12 Pt.

Page Headers

Title Times New Roman 12 Pt. Bold Italics, Flush Left; Date and Page Number (e.g., 1-1, etc.) Times New Roman 12 Pt. Bold Italics, Flush Right

Footers

Footers and footnotes will be used sparingly and as needed.

References (including Personal Communications)

Information cited from another source MUST include the reference data. Plagerism is unacceptable for any documentation. If specific wording is necessary, it must be quoted and referenced. Examples of literature references are presented below.

Grassle, J. F. and W. Smith. 1976. A similarity measure sensitive to the contribution of rare species and its use in investigation of variation in marine benthic communities. *Oecologia* 25:13-25.

Peven, C. S. and A. D. Uhler. 1993. Analytical procedures for trace and major element analysis. In: Sampling and Analytical methods of the National Status and Trends Program National Benthic Surveillance and Mussel Watch Project. Volume III. NOAA

Technical Memorandum NOS ORCA 71. National Oceanic and Atmospheric Administration, Silver Spring, MD.

Battelle. 2001. Final Quality Assurance Project Plan Rhode Island Sound Disposal Site Study. Task 1 QAPP: Field Sampling, Chemical, and Toxicity Testing. Prepared under Contract No. DACW33-01-D-0004, Delivery Order No. 02. September 2001. 408 pp + Appendices.

Field, J. 2001. Personal communication, April 18, 2001.

Website references will include the complete web address.

References in text should be cited according to the following examples.

The U.S. Food and Drug Administration (FDA) has set action limits for the maximum tissue concentrations of specific contaminants in the edible portions of fish and fishery products (FDA, 1989).

References to tables and figures within the EIS shall occur within the sentence in which the reference is made and shall consist of the table or figure number in parentheses. References to multiple tables/figures should be separated within the parentheses by a comma (Table 1-3, Figure 3-5).

Abbreviations

Acronyms and abbreviations must be defined the first time they are used. The acronym or abbreviation should be used there after. For example:

Water samples were collected for total suspended solids (TSS) analysis. Samples for TSS analysis were not filtered in the field.

i.e. (id est) is defined as "**that is**", and should be used as follows:

He said he would be gone a fortnight (*i.e.*, two weeks).

e.g. (exempli gratia) is defined as "**for example**", and should be used as follows:

Trees, too, are susceptible to disease (*e.g.*, Dutch Elm disease).

Units

Unit abbreviations will not include periods, except for inches (in.). Units should not be hyphenated but should include a space between the numeral and the unit. For example, "100 ft", not "100-ft".

Chemical concentrations will be expressed in parts per million (ppm) or parts per billion (ppb). These units will be defined in the acronym list in equivalent metric units.

Dredging volumes will be expressed in English units (*e.g.*, cubic yards – CY). When available dredge volume data are expressed in meters, they will first be converted to yards.

Other units of measure will be expressed as indicated in Table 1. Factors for converting measurements into the appropriate units are presented in Table 2.

Table 1. Measurement Units for the RIR EIS.

Parameter	Unit
Depth	ft
Length	ft
Weight	g
Air Temperature	°F
Water Temperature	°C
Conductivity	mS/cm
Salinity	Practical Salinity Unit (PSU)
Density	kg/m^3
Water Pressure	db
Dissolved Oxygen (DO) Concentration	mg/L
DO Saturation	%
Fluorescence	µg/L
Chlorophyll *a*	µg/L
In situ Irradiance	µEm-2sec-1
Surface Irradiance	µEm-2sec-1
Transmissivity	m-1
Total Suspended Solids	mg/L
Dissolved Organic Carbon (DOC) /Particulate Organic Carbon (POC)	µM
Total Organic Carbon (TOC)	%C by dry weight
Sediment Grain Size	% by weight
Organism length	m
Fish Catch	Catch per Unit Effort (CPU)
Dredging volumes	CY

Table 2. Conversion Factors for Various Measurement Units.

Converting From	Converting To	Multiply By
mile (US Statute)	kilometer (km)	1.609347
inch (in)	meter (m)	0.0254
foot (ft)	meter (m)	0.3048
yard (yd)	meter (m)	0.9144
square foot (ft^2)	square meter (m^2)	0.09290304 E
square yard (yd^2)	square meter (m^2)	0.83612736 E
cubic inch (in^3)	cubic meter (m^3)	0.00001639
cubic foot (ft^3)	cubic meter (m^3)	0.02831685
cubic yard (CY)	cubic meter (m^3)	0.7645549
gallon (gal)	liter (L)	4.546
gallon (gal)	cubic meter (m^3)	0.00378541
fluid ounce (fl oz)	milliliters (ml)	29.57353
fluid ounce (fl oz)	cubic meter (m^3)	0.00002957
pound (lb)	kilogram (kg)	0.4535924
degree Fahrenheit (ºF)	degree Celsius (ºC)	ºC=(ºF-32)/1.8

Numbers less than ten should be spelled out (*e.g.*, one, two, three, etc.), except where they are part of a measurement (*e.g.*, 2 ft, 7 g, etc.). Also, if there is one number greater than 10 and one number less than 10, numerals will be used for both (*e.g.*, 7 sections and 11 subsections).

Electronic Filing and Naming Convention

An electronic filing system will be established on the Battelle computer network for electronic copies of the EIS sections, including text, figures, and tables. At the end of each day, EIS authors will save any updates made to these files on the network so that they are backed up each night along with the entire Battelle network system. Electronic files should be named using the EIS section or subsection number and the section/subsection title. Revisions to existing electronic files shall be saved as a new file and named using the original file name plus a sequential revision number. An example of the naming convention is given below.

Section 3.2.1 Types and Quantities of Material Disposed in the ZSF rev 3.doc

2.3 REVIEW PROCESS

Battelle Standard Operating Procedure (SOP) 6-042 defines the review procedures that will be applied to documents produced by Battelle (Battelle, 2002b). As defined in the Battelle Duxbury Operations Quality Management Plan (QMP), every contract deliverable should be reviewed by independent reviewers (*i.e.*, someone other than the author) to ensure that it is accurate, technically sound, has objective interpretation, solid conclusions, satisfying presentation, and meets or exceeds client expectations (Battelle, 2000).

The project-specific review requirements for the RIR EIS include a quality assurance (QA), technical, and editorial component (Figure 2). EIS authors will submit individual EIS sections to each of the reviewers identified in Figure 2 for review as the sections are completed. Ms. Stacy Abramson, EIS Coordinator, will work with the EIS authors to schedule and track the section reviews. A document review form (Appendix C) will be provided with each section that is submitted for review so that each reviewer understands the scope of his/her review, the review budget, and the schedule. These forms will be completed and signed by the reviewer at the end of each review, and copies will be maintained in the project files by Ms. Stacy Abramson. The authors will be responsible for addressing any review comments before the sections are submitted for subsequent review and finally submitted for incorporation into the draft EIS.

2.3.1 QA Review

The EIS authors will submit their sections or subsections of text, along with any associated tables or figures, to the project quality assurance officer for review. The QA review will assess the accuracy and completeness of the reported data, accuracy of report tables and figures references within the text, compliance with the procedures defined in the workplan, and compliance with regulatory statutes for environmental data collection and reporting.

2.3.2 Technical Review

The report sections, including tables and figures, that have been audited by QA will then be submitted for technical review. Dr. Carlton Hunt, Ms. Lisa Lefkovitz, and Ms. Debra Walker will perform a technical review, which will evaluate the technical soundness of the methods used to collect and develop data, the technical reasonableness of the data, and the appropriateness of the data interpretation. The review should be consistent with the guidance provided by EPA in *EPA's Peer Review Handbook* (EPA 100-B-00-001).

2.3.3 Editorial Review

Rachel Spangenberg will perform the editorial reviews of the EIS sections, following the QA and technical reviews. The editorial review will assess the document's organization, clarity, grammar, and consistency with the workplan. Guidance for the editorial review will by provided by several references, including *Words into Type* (1974) and *The Little, Brown Handbook* (Fowler, 1983).

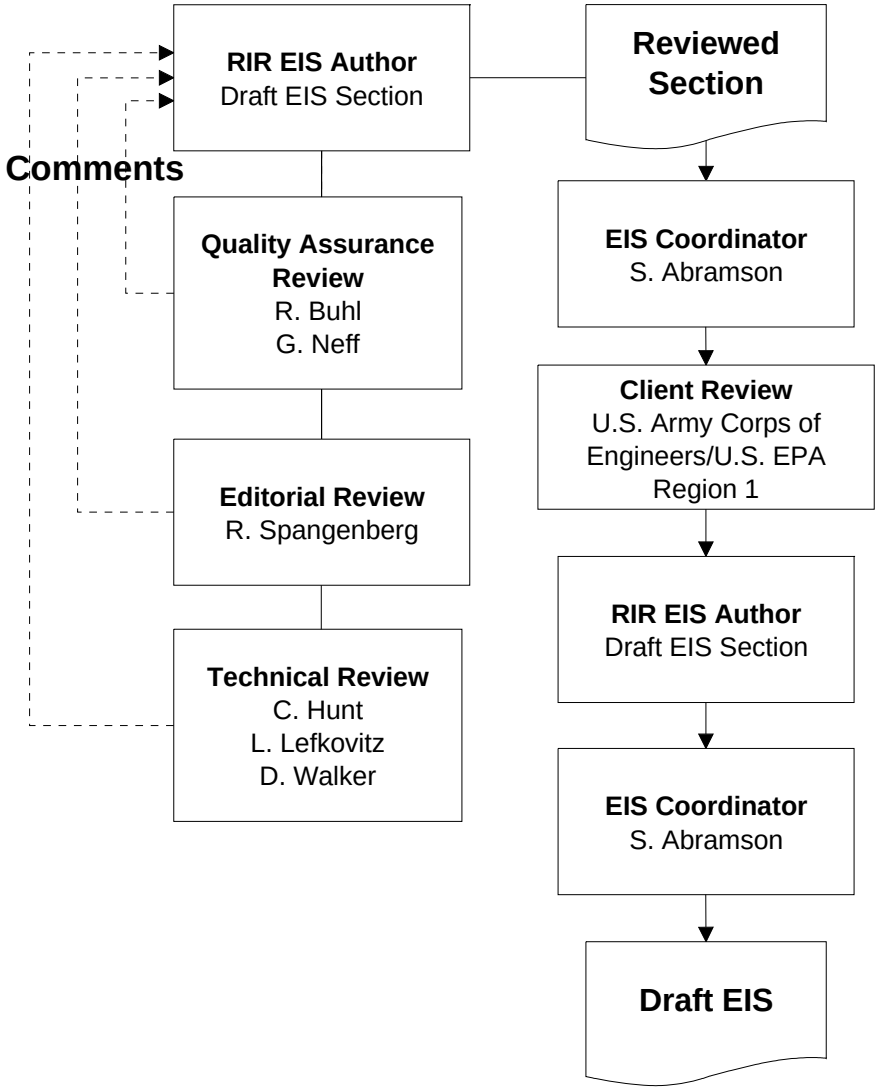

Figure 2. Draft EIS Review and Routing.

2.4 DRAFT EIS

EIS sections (or subsections) that have completed the review process (QA, technical, and editorial review) will be submitted to the Corps and EPA Region 1 for review and comment.

Once the Corps' and EPA's comments have been addressed, the completed section will be submitted to Ms. Stacy Abramson, EIS Coordinator, for incorporation into the draft EIS document. Control of the electronic document will be restricted to Ms. Abramson during the preparation of the draft EIS. Any edits or corrections to be made to sections of the EIS that have already been incorporated into the draft document must be communicated to Ms. Abramson, who will then make the changes in the electronic document.

2.5 RESPONSE TO COMMENTS

The process for submitting the draft EIS for public comment and addressing public comments will be determined at a later date, once Battelle has received the Scope of Work for this activity from the Corps.

2.6 FINAL EIS

The process for submitting the final EIS will be determined at a later date, once Battelle has received the Scope of Work for this activity from the Corps.

2.7 ADMINISTRATIVE RECORD

Battelle will be responsible for maintaining an Administrative Record for the RIR EIS project. *Note: This task has not yet been scoped or awarded*. An Administrative Record is maintained for two reasons, the first being for judicial review and the second for public review. Under the Administrative Procedures Act (APA) of 1946, a citizen can file a lawsuit over a NEPA decision if he or she thinks that they have been harmed by a Federal action. APA allows for the right to seek judicial review of the action. A judge then determines if the Federal decision identified in the EIS was adequately addressed and is in compliance with NEPA. The Administrative Record is the vehicle by which the judge makes his review and determination. The Administrative Record must also be available at decision points and during comments periods for the public. It is for these reasons that it is critical that an organized, indexed Administrative Record be kept.

An Administrative Record is a record of all documents considered during the decision-making process in accordance with NEPA. The Administrative Record is essentially a paper trail of all information materials utilized during the EIS documentation and the final decision making.

The Administrative Record will be kept in chronological order and organized in a manner that provides a log or listing of all documents. The Record will include all relevant data, information, testing, analyses, and documentation that were prepared, generated, or obtained for the preparation of the EIS.

- Draft and Final EIS (official drafts, but not preliminary drafts unless they are hand written comments and responses on them)
- Supporting documentation: technical reports, other NEPA documents, scientific studies
- Comment and response letters
- All scientific and technical reports and studies
- All sampling databases
- Computer modeling
- Maps, tables, and graphics
- Meeting minutes (management, agency, work groups, public)
- Relevant telephone call records (those that occur between EPA, the Corps, Battelle, federal, state, and local agencies, and stakeholders. Battelle will be responsible for only

those calls to which it is a party. The Corps will be responsible for maintaining records of calls for the administrative record to which Battelle is not a party.)

- Public involvement materials and information
- Agency coordination letters
- Permits
- Contracts
- Legal opinions
- Personal records (circulated memos, telephone conversations with agencies, etc.)
- Relevant e-mails, with important e-mails copied to ^BCO DUX RISEIS (those that occur between EPA, the Corps, Battelle, federal, state, and local agencies, and stakeholders. Battelle will be responsible for only those calls to which it is a party. The Corps will be responsible for maintaining records of e-mails for the administrative record to which Battelle is not a party.)

3.0 SCHEDULE OF MILESTONES AND DELIVERABLES

The proposed milestones and deliverables for this task are presented in Table 3. This schedule is based on work awarded to date and is subject to change.

Table 3. Project Milestones and Deliverables.

Milestones and Deliverables	Due Date
NOTICE OF INTENT	**6-Apr-01**
SCOPING	
Scoping Meeting-Westport	17-May-02
Scoping Meeting-Narragansett	22-May-02
PUBLIC INVOLVEMENT - Meeting with Fisherman and Fishery Agencies	
Meeting 1: November 14, 2001	14-Nov-01
Meeting 2: January 8, Narragansett	8-Jan-02
Task 14A Public Workgroup Meetings	26-Sep-02 thru 19-Jan-03
Task 7 - Data Gathering	6-Jun-01 thru 31-Jan-03
Task 8: LITERATURE REVIEW	3-Sep-02
Task 12: Dredging Needs Study	18-Nov-02
Task 13: ZONE(S) OF SITING FEASIBILITY	19-Nov-02
PRELIMINARY WORKING DRAFT EIS	**1-Jul-03**
1.0 Purpose of and Need for the Action	31-Jan-03

Table 3 (cont.). Project Milestones and Deliverables.

Milestones and Deliverables	Due Date
2.0 Alternatives	30-Apr-03
3.0 Affected Environment	1-Apr-03
Notice to Proceed	25-Nov-02
3.1 Location	25-Feb-03
3.2 Historic Disposal	25-Feb-03
3.3 Physical Environment	25-Feb-03
3.4 Water Quality	25-Feb-03
3.5 Biological Environment	25-Feb-03
3.6 Socioeconomic Environment	25-Feb-03
3.7 Site Specific Affected Environment	TBD
Revised Sections 3.1 - 3.6 (based on comments)	Within two weeks of receipt of comments
4.0 Environmental Consequences	2-Jun-03
4.1 General Environmental Consequences	25-Feb-03
Revised Draft of Section 4.1	Within two weeks of receipt of comments
4.2 Environmental Cons.- Alternative #1	TBD
4.7 Preferred Alternative	TBD
5.0 Feasibility of Surveillance and Monitoring	TBD
6.0 Coordination	TBD
7.0 List of Preparers	TBD
8.0 Agency and Organization Distribution List	TBD
Address Corp/EPA Comments on Working Draft	TBD
Draft EIS to Agencies	**1-Jul-03**
Submit Draft EIS to Agencies	1-Jul-03
DEIS - Agency Comment Period	1-Aug-03
Battelle Response to Agency Comments	15-Dec-03
Draft EIS to Public	**14-Jan-04**
Submit Draft EIS to Public	14-Jan-04
60-Day Public Comment Period	15-Mar-04
Public Hearing	3-Mar-04
Prepare Response to Comments	30-Mar-04
Incorporate Comments into Draft Final EIS	30-Mar-04
Publish Response to Comments	30-Jun-04
Produce Final EIS Draft and Rulemaking	2-Aug-04
FINAL EIS	**1-Dec-04**
Submit FINAL Draft EIS	2-Aug-04
45-Day Public Comment Period	13-Aug-04
Prepare FINAL EIS	30-Aug-04
Release to Federal Register	1-Dec-04
NOI -FINAL RULEMAKING IN FEDERAL REGISTER	**30-Jul-04**
RECORD OF DECISION	**1-Dec-04**

4.0 PROJECT ORGANIZATION AND COMMUNICATION

Communication pathways will follow the project organization chart (Figure 3). Mr. Mike Keegan is the Corps Project Manager. Ms. Karen Foster is Battelle's Program Manager and be responsible for the program level review and one-over-one signature approval of all project deliverables. Ms. Lisa Lefkovitz is Battelle's Project Manager and will be the primary contact with the Corps Project Manager. Dr. Carlton Hunt, Ms. Debra Walker, and Ms. Jennifer Field will also serve as Technical Advisors to Ms. Lefkovitz. Ms. Rosanna Buhl will serve as Battelle's Program Quality Assurance Officer, who will be assisted by Ms. Grace Neff, Battelle's Project QA Officer. Contact information for these and other key team members are presented in Table 4.

Each task element has been assigned a separate subaccount with budget and milestones for tracking costs against progress. Battelle's QMP describes the management policies that will be applied to all RIR EIS activities (Battelle, 2000).

A project kick-off meeting will be held for all EIS authors and project managers. Regular project meetings will be held with lead authors to monitor the progress of each EIS section. All important e-mail messages should be copied to the project inbox at ^BCO DUX RISEIS.

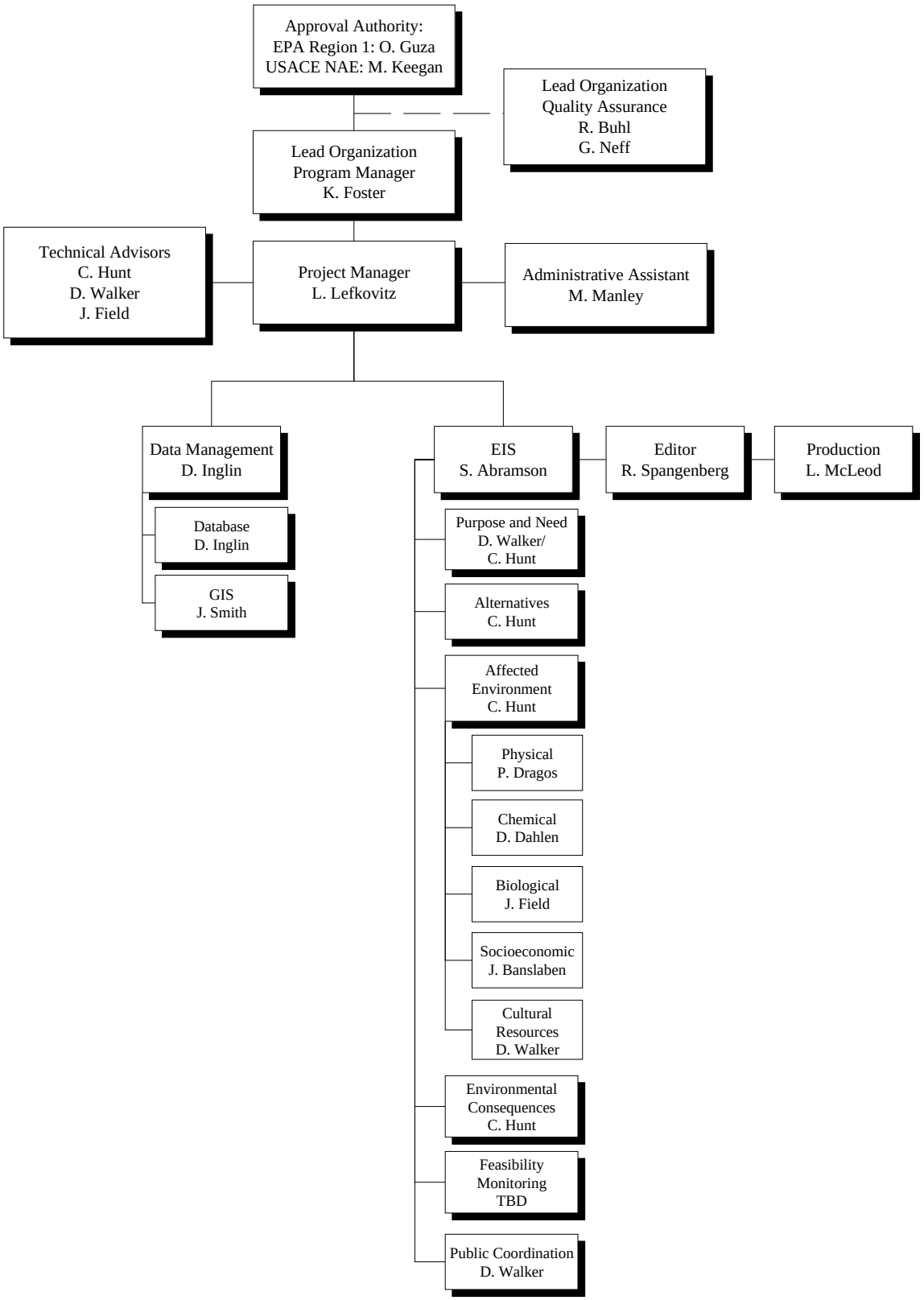

Figure 3. Project Organizational Chart.

Table 4. Roles and Contact Information for RIR EIS Team Members.

Name	Role	Affiliation Street Address E-mail	Telephone and Fax
U.S. Army Corps of Engineers New England District 696 Virginia Rd. Concord, MA 01742-2751 (978) 318-8087			
Michael Keegan	Project Manager	Michael.F.Keegan@usace.army.mil	(978) 318-8087
Cathy Rogers	Technical Advisor	Catherine.J.Rogers@usace.army.mil	(978) 318-8231
U.S. EPA, Region 1 1 Congress Street, Suite 1100 Boston, MA 02114-2023 (617) 918-1542			
Olga Guza	Project Manager	guza.olga@epa.gov	(617) 918-1542
Ann Rodney		rodney.ann@epa.gov	(617) 918-1538
Mel Cote		cote.mel@epa.gov	(617) 918-1553
Battelle 397 Washington Street Duxbury, MA 02332 (781) 934-0571 (781) 934-2124 Fax			
Karen Foster	Program Manager	Foster@battelle.org	(781) 952-5370
Lisa Lefkovitz	Project Manager/Author	Lefkovitz@battelle.org	(781) 952-5254
Melissa Manley	Administrative Assistant	ManleyM@battelle.org	(781) 952-5365
Rosanna Buhl	Program QA Officer	Buhl@battelle.org	(781) 952-5309
Grace Neff	Project QA Officer	NeffG@battelle.org	(781) 952-5312
Dr. Carlton Hunt	Technical Advisor/Author	HuntC@battelle.org	(781) 952-5374
Debra Walker	Technical Advisor/Author	WalkerD@battelle.org	(401) 827-3001
Stacy Abramson	EIS Coordinator/Author	Abramson@battelle.org	(781) 952-5330
David Inglin	Database Manager	InglinD@battelle.org	(781) 952-5368
Jennyfer Smith	GIS Coordinator	SmithJK@battelle.org	(781) 952-5398
Paul Dragos	Author	DragosP@battelle.org	(781) 952-5357
Deirdre Dahlen	Author	DahlenD@battelle.org	(781) 952-5253
Jennifer Field	Author	FieldJ@battelle.org	(781) 952-5392
Lynn McLeod	Production Coordinator	Mcleod@battelle.org	(781) 952-5381
Joel Banslaben	Author	BanslabenJ@battelle.org	(631) 941-3210 (631) 9414010 Fax
Rachael Spangenberg	Editor	Rsmspang@aol.com	(301) 625-9611

5.0 QUALITY ASSURANCE/QUALITY CONTROL

To ensure that all data reported during the preparation of the EIS are of the highest quality, data will be examined in terms of precision, accuracy, completeness, comparability, and representativeness. The application of these measures of data quality is described below.

Accuracy - the extent of agreement between the measured value and the true value
Precision - the extent of agreement among independent, similar, or related measurements
Completeness - measure of the amount of data acquired relative to the amount of data required to fulfill the objectives and statistical criteria for the intended use of the data
Comparability - the extent to which data from one study can be compared directly to similar studies
Representativeness - the extent to which sample locations and measurements represent true systems

During the preparation of the RIR EIS, two types of data will be checked for quality assurance and quality control. They are source data (field/laboratory data collected by Battelle and historical data gathered during the literature search), and data synthesized for the EIS.

5.1 SOURCE DATA

Field and laboratory data generated by Battelle as part of Task 7 were audited and validated according to the procedures described in Battelle SOP 4-015 and in the project Quality Assurance Project Plan (QAPP) (Battelle, 2002c; Battelle, 2001). All data were verified and validated to ensure that the measurement performance criteria and calibration and maintenance requirements described in the QAPP were met and that the data were complete, accurate, and traceable. Guidance for assessing the quality and usability of data is defined in Section 2.2.1 and is the responsibility of the technical authors.

5.2 DATA SYNTHESIZED FOR THE EIS

Data tables and figures produced by Battelle EIS authors will be checked against the original data query used to produce the tables/graphs to ensure their accuracy and completeness. All calculations performed manually will be checked for accuracy. Calculations performed by software will be checked at a frequency sufficient to verify their accuracy.

6.0 DELIVERABLES

Several deliverables will be generated as part of the EIS task and are described below.

6.1 WORKPLAN

Four draft copies of the workplan will be submitted to the Corps (both electronically via email and in hard copy) for review one week after receiving the notice to proceed (NTP). Comments will be submitted to Battelle (including comments from EPA) within two days of receipt of the draft document. Five copies of the final document will be produced within three days of receipt of comments from the Corps and submitted both electronically and in hard copy.

6.2 PROGRESS REPORTS

Monthly progress reports will be submitted to the Corps Project Manager and will document the status of scope items, problems encountered, and schedule. Monthly progress reports are due the 15th of the following month (i.e., the December progress report is due January 15).

6.3 INTERNAL WORKING DRAFT OF THE EIS

Four copies of the working draft EIS sections will be delivered to the Corps for review The first three sections/subsections that are scheduled to be delivered include 1.0 Purpose and Need Section, 3.1 – 3.6 Affected Environment, General Environment Section, and 4.2.1 Environmental Consequences, General Impacts of Open Water Disposal Section. Other sections will follow as NTP is received. The Corps will provide comments to Battelle (including comments from EPA) within two weeks of receipt of the draft submission. Final Sections of 1.0, 3.1 – 3.6 and 4.2.1 should be prepared within two weeks of receipt of comments from the Corps. Five copies of the final Sections are to be provided. Battelle will provide draft and final reports both electronically (via email or by CD if appropriate) and in hard copy.

The remaining sections of the EIS will be written at the direction of the Corps and EPA.

6.4 DRAFT EIS

Once all of the individual sections of the internal working draft have been revised based on comments from the Corps and EPA, they will be incorporated into an agency review draft of the EIS. This agency review draft of the EIS will be submitted to the cooperating agencies for review and comment. A revised draft will then be submitted for public review and comment. The draft EIS deliverables, and associated response to comments, will be defined at a later date by the Corps and EPA.

6.5 FINAL EIS

The deliverable for the final EIS will be defined at a later date, by the Corps and EPA.

7.0 REFERENCES

Battelle. 2002a. Results of Literature Search and Preliminary Data Gaps Assessment, Draft Report. Task 8: Literature Review. Prepared under Contract No. DACW33-01-D-0004, Delivery Order No. 02. June 2002. 18 pp + Appendices.

Battelle. 2002b. SOP 6-042: Standard Operating Procedure for Document Review. Effective April 2, 2002. 8 pp.

Battelle. 2002c. SOP 4-015: Standard Operating Procedure for Quality Assurance Audits of Reported Data. Effective March 6, 2002. 13 pp.

Battelle. 2001. Final Quality Assurance Project Plan Rhode Island Sound Disposal Site Study. Task 1 QAPP: Field Sampling, Chemical, and Toxicity Testing. Prepared under Contract No. DACW33-01-D-0004, Delivery Order No. 02. September 2001. 408 pp + Appendices.

Battelle. 2000. Project Management Plan/Quality Management Plan. Battelle Duxbury Operations, Duxbury, MA. November 13, 2000.

Federal Register. 2001. Designation of Dredged Material Disposal Sites in Rhode Island Sound and Adjacent Waters, Rhode Island and Massachusetts. Intent to Prepare an Environmental Impact Statement. April 6, 2001. 66 (67): 18244-18245.

Fowler, R.H. 1983. The Little, Brown Handbook. Second Edition. Boston: Little, Brown Company.

U.S. Department of Interior. Bureau of Reclamation. Decision Process Guidebook. Administrative Record. http://www.usbr.gov/guide/record.htm#top.

Words into Type. 1974. Third Edition. New Jersey: Prentice-Hall.

Appendix A

RIR EIS Outline

Proposed Outline For The Rhode Island Sound Draft EIS

Cover sheet
Table of Contents
List of Tables *ix*
List of Figures *xi*
List of Acronyms *xviii*
Ocean Dumping Regulation Reference Table *xx*
Executive Summary (discussion of effects & matrix)

1.0 PURPOSE AND NEED FOR ACTION
(short history of how we got here – story of legislative history, historic and current disposal in lieu of introduction, road map to the section)
1.1 Purpose of the Action
(Clear statement of purpose)
1.2 U.S. Ocean Disposal History, Regulations, and Pertinence to the RIS Open Water Disposal Site(s) (purpose is designation of Open Water Disposal Site)
1.2.1 Legislative History of MPRSA, NEPA, in relation to RIS (CWA-discussion including beneficial use and interaction of DM management in the region, request for looking at an ocean disposal site by Senator/Reps)
1.2.2 History of Disposal in Rhode Island Sound (general with reference to current sites)
1.2.3 Agency Activities Leading to RIS EIS
(Corps/EPA memo, NEPA, phases, public involvement)
1.3 Need for Open Water Disposal Site (justification for the action will be presented)
Summary of Existing and Future Projects (dredging needs results)
1.4 Regulatory Requirements for Site Use
Summary of steps required for open water site use including permits, testing under the "Green Book, disposal alternatives analysis, consistency, and requirements under the SMMP)
1.5 Scoping and Public Involvement (study needs identified, issue matrix)
1.6 Proposed Action (to be incorporated when the action is defined)

2.0 ALTERNATIVES
2.1 Identification of Alternatives
Sections include a succinct description of each alternative
2.1.1 Site Screening Process
2.1.2 Alternative Identification
2.1.3 Alternatives Considered and Eliminated from Detailed Study (alternatives matrix)
Beneficial Use Alternatives
Upland Disposal (404)Alternatives
Other Alternatives
2.2 Alternatives Evaluated (alternatives matrix)
2.2.1 Alternative 1: No-Action
2.2.2 Alternative 2: Site 1
2.2.3 Alternative 3: Site 2
2.2.4 Alternative 4: Site 3\
2.3 Preferred Alternative

3.0 AFFECTED ENVIRONMENT (brief introduction explaining section)
- 3.1 Location [40 CFR 228.6(a)(1)]
- 3.2 Historic Dumping [40 CFR Sections 228.5(e) and 228.6(a)(7)]
  - 3.2.1 Types and Quantities of Material Disposed in the ZSF [40 CFR Section 228.6(a)(4)] (draw on dredging needs document)
  - 3.2.2 Existence and Effects of Current and Previous Dumping in the Area [40 CFR Section 228.6(a)(7)]
- 3.3 Physical Environment
  - 3.3.1 Geological Setting
  - 3.3.2 Meteorology [Section 228.6(a)(6)]
  - 3.3.3 Physical Oceanography [Sections 228.6(a)(1) and 228.6(a)(6)]
    Regional Circulation and Currents
    Wave Climate
  - 3.3.4 Sediment Characteristics
    Physical Characteristics (Grain size, etc)
    Metals Distributions
    Organic Contaminants
    Sediment Quality (toxicity)
  - 3.3.5 Sediment Transport [Section 228.6(a)(6)
    (Discusses sediment resuspension and transport in the region)
- 3.4 Water Quality [40 CFR Section 228.6(a)(9)]
  - 3.4.1 Temperature, Salinity, and Density
  - 3.4.2 Water Column Turbidity
  - 3.4.3 Dissolved Oxygen
  - 3.4.4 Nutrients
  - 3.4.5 Contaminants
- 3.5 Biological Environment (ecology) [40 CFR Section 228.6(a)(9)]
  - 3.5.1 Plankton Community [40 CFR Section 228.6(a)(9)]
    Phytoplankton
    Zooplankton
  - 3.5.2 Benthic Invertebrates [40 CFR Sections 228.6(a)(2) and 228.6(a)(9)]

(Includes infaunal and epifaunal communities; discussion of community and sediment type relationship)
  - 3.5.3 Fish (includes life tables for relevant species)
    Spatial and Temporal Distribution
    Commercially Important Fish Distribution
    Recreationally Important Fish Distribution
    Ecologically Important Fish Distribution
    Spawning Strategies (Demersal and Pelagic)
    Food and Habitat Requirements
    Essential Fish Habitat
  - 3.5.4 Shellfish (includes life tables for relevant species)
    Spatial and Temporal Distribution of Shellfish
    Spawning Strategies
    Food and Habitat Requirements
  - *3.5.5* Lobster

3.5.6 Marine and Coastal Birds [40 CFR Section 228.6(a)(9)] (includes life table for relevant species)
Coastal Species
Marine Species

3.5.7 Marine Mammals and Reptiles [40 CFR Section 228.6(a)(9)] (life tables for relevant species)
Cetaceans (Whales, Dolphins, Porpoises)
Pinnipeds
Reptiles (Turtles)

3.5.8 Rare, Threatened, Endangered Species and Species of Special Concern (includes life table for relevant species); (References Biological Assessment or other agency coordination as appropriate)

3.5.9 Contaminants in Organisms [40 CFR Section 228.10(b)(6)]
(Subsections include comparison to other nearby sites, recent data and discuss relative to FDA Advisory Levels; one or two paragraphs on potential of human consumption and risk)
Benthic Infauna
Fish and Shellfish

3.6 Socio-economic Environment [40 CFR Sections 228.6(a)(8) and (11)]

3.6.1 Commercial and Recreational Fisheries
(Discussions of catch Data of Commercially and Recreationally Important Fish and Shellfish); (discuss Fishery Enhancement Structures and Operations as appropriate)

3.6.2 Shipping [40 CFR Sections 228.5(a) and 228.6(a)(8)]
(Includes discussion of transportation, air quality and noise issues)

3.6.3 Military Usage (will need to deal with UXO)

3.6.4 Mineral/Energy Development [40 CFR Section 228.6(a)(8)]

3.6.5 Recreational Activities

3.6.6 Natural or Cultural Features of Historical Importance [40 CFR Section 228.6(a)(11)]

3.6.7 Other Legitimate Uses - [40 CFR Section 228.6(a)(8)]

3.6.8 Areas of Special Concern

3.7 Site Specific Data (integrate recent data and put in context of the ZSF)

3.7.1 Site 1:
Location/bathymetry
Physical Oceanography
Transport (location and movement in water relative to amenities and beaches, etc.
Sediment Quality
Contaminants, toxicity
Water Quality
Biota/Ecology
Plankton, Benthos, Fish/Shellfish, Birds, Mammals and Reptiles, Endangered Species
Fishing Activities
Shipping/Navigation
Beaches
Parks/Natural Areas
Historic/Archaeological
Other Human Uses

3.7.2 Site 2:
As for Site 1
3.7.3 Site 3:
As for Site 1

ENVIRONMENTAL CONSEQUENCES

Describes approach to evaluating consequences of the alternatives (includes direct, indirect and cumulative impact definitions – general summary of dumping)

3.8 General Impacts of Dredge Material Disposal
(Including relevant DAMOS Monitoring results)
- 3.8.1 Disposal Process in Open Water
- 3.8.2 Water Column Impacts
- 3.8.3 Sediment Changes
- 3.8.4 Burial of Benthic Epifaunal and Infaunal Invertebrates and Fish
- 3.8.5 Effects of Suspended Solids on Life Stages filter (feeders, invertebrates, lobster, fish)
- 3.8.6 Effects on Marine Wildlife
- 3.8.7 Long-term Impact and Recovery

3.9 Environmental Consequences of Alternative 1 – No Action
General description and consequences of dredging, disposal, beneficial use and upland alternatives (use Providence River EIS as basis, general consideration of consequences of not having an open water disposal site; will address the major subheadings shown in Section 4.3 as appropriate)

3.10 Environmental Consequences of Alternative 2
- 3.10.1 Proposed Disposal Activities
- 3.10.2 Physical Environment
  Currents [40 CFR Sections 228.6(a)(1) and 228.6(a)(6)]
  Wave Climate
  Transport Water Column [40 CFR Sections 228.5(b), 228.6(a)(6), 228.10(b)(4), 228.10(c)(1)i] (includes modeling)
  Sediment Resuspension and Transport [40 CFR Section 228.6(a)(6) and 40 CFR 228.10(c)(1)i] (discuss modeling)
- 3.10.3 Sediment Characteristics [40 CFR Section 228.10(b)(4)]
  Physical
  Contaminants (Metals Organics)
  Sediment Quality (toxicity)
- 3.10.4 Water Quality [40 CFR Sections 228.6(a)(9) and 228.10(b)(4),]
  Temperature, Salinity, and Density
  Water Column Turbidity
  Dissolved Oxygen
  Nutrients
  Contaminants
- 3.10.5 Biota and Ecology [40 CFR Sections 228.6(a)(2) and 228.6(a)(9); 228.10(b)(2), 228.10(b)(3), and 228.10(b)(5)]
  Plankton Community
  Phytoplankton
  Zooplankton
  Benthic Invertebrates
- 3.10.6 Fish/Shellfish [40 CFR Sections 228.6(a)(2) and 228.6(a)(9); 228.10(b)]
  Commercially Important Fish/Shellfish
  Recreationally Important Fish/Shellfish
  Ecologically Important Fish/Shellfish
  Spawning Strategies of Fish/Shellfish in the Study Area
  Fish and Shellfish Habitat
  Essential Fish Habitat

3.10.7 Marine and Coastal Birds [40 CFR Section 228.6(a)(9)]
Coastal Species
Marine Species
3.10.8 Marine Mammals and Reptiles [40 CFR Sections 228.6(a)(9)]
Cetaceans (Whales, Dolphins, Porpoises)
Pinnipeds
Reptiles (Turtles)
Rare, Threatened, Endangered Species and Species of Special Concern (From Biological Assessment if done or agency coordination documentation)
3.10.9 Contaminant Bioaccumulation Potential/Risk
Ecological Risk
Human Health from Fish and Shellfish
3.10.10 Socio-economic Environment [40 CFR Sections 228.6(a)(8) and (11)]
Commercial and Recreational Fisheries
Habitat Alteration
Shipping [Sections 228.5(a) and 228.6(a)(8)]
(Discusses transportation issues and relation to air quality; how much focus given this section?)
Military Usage (will need to deal with UXO)
Mineral/Energy Development [40 CFR Section 228.6(a)(8)]
Recreational Activities
Natural or Cultural Features of Historical Importance [40 CFR Section 228.6(a)(11)]
Other Legitimate Uses of the Study Area [40 CFR Section 228.6(a)(8)]
Areas of Special Concern

3.11 Environmental Consequences of Alternative 3
(The same topic areas identified under Alternative 2 will be repeated)
3.12 Environmental Consequences of Alternative 4
(The same topic areas identified under Alternative 2will be repeated)
3.13 Comparison of Alternatives
(comparison matrix and summary text of all four alternatives, criteria and impacts)
3.14 Preferred Alternative (Decision and justification)

4.0 FEASIBILITY OF SURVEILLANCE AND MONITORING
4.1 Site Management and Monitoring Plan
(Summary of the SMMP)

5.0 AGENCY COORDINATION AND COMPLIANCE
5.1 Cooperating Agency Request
5.2 Coordination Activities Conducted during the Preparation of the EIS
5.2.1 Federal Agencies
5.2.2 State Agencies
5.2.3 Local Agencies
5.3 Threatened and Endangered Species Consultation (Biological Assessment)
5.4 EFH Consultation
5.5 CZM Statement of Compliance
5.6 Environmental Compliance (table)

6.0 PUBLIC INVOLVEMENT
- 6.1 Scoping
- 6.2 Work Group Sessions
- 6.3 Public Information Meetings
- 6.4 Public Hearing

7.0 LIST OF PREPARERS

9.0 REFERENCES Single reference list for the document

10.0 GLOSSARY OF TERMS

11.0 LIST OF EIS DISTRIBUTION TO AGENCIES, ORGANIZATIONS, and INDIVIDUALS

12.0 INDEX

APPENDICES

Agency Coordination (letters)
Site Management and Monitoring Plan (SMMP)

Appendices to be decided as to whether part of EIS or other availability–Reports and other documentation as required by the agencies to support the EIS (i.e., Biological Assessment, Compliance documents, Site Screening Alternatives, etc)

Appendix B

Project Scope of Work

TASK 10. Preparation of an Environmental Impact Statement for the Rhode Island Sound Long-Term Dredged Material Disposal Site Study.

Objective: To prepare a draft and final Environmental Impact Statement (EIS) for the Rhode Island Sound Long-Term Dredged Material Disposal Site Evaluation Project. This project will consider the potential designation of one or more dredged material disposal sites in the waters of Rhode Island Sound and southeastern Massachusetts region under Section 102 (c) of the Marine Protection, Research and Sanctuaries Act (MPRSA). The EIS should be prepared in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500 et. seq.), and the U.S. Environmental Protection Agency (EPA)/U.S. Army Corps of Engineers (Corps) Ocean Dumping Site Designation Handbook.

An outline for the Rhode Island Sound Long-Term Dredged Material Disposal Site Evaluation EIS is provided as an attachment. The recommended EIS outline under Table 2.2.1 in the EPA/Corps Ocean Dumping Site Designation Delegation Handbook for Dredged Material (1986) should also be referenced. The main sections of the EIS include: Purpose and Need, Alternatives (including the Preferred Selected Disposal Site(s)), Affected Environment, and Environmental Consequences. We will provide the contractor individual tasks to complete the EIS when appropriate.

Three copies of the draft 1.0 Purpose and Need Section, 3.1 Affected Environment, General Environment Section, and 4.2.1 Environmental Consequences, General Impacts of Open Water Disposal Section should be available for review 60 days after the notice to proceed. The Corps of Engineers will provide comments to the contractor (including comments from EPA) within two weeks of the draft submission. Final Sections of 1.0, 3.1 and 4.2.1 should be prepared within two weeks of receipt of comments from the Corps of Engineers. Five copies of the final Sections are to be provided. The contractor will provide draft and final reports both electronically (via email) and in hard copy.

Task 10.1

The contractor is to prepare a quality control document for the EIS. This document will provide consistency among writers of the EIS for terminology (i.e. project title, geographic names, dumping vs. disposal, etc.), EIS outline numbering (limited to three levels), figure and table labeling, font/font size, sentence structure, and any other item that will ensure a consistent, quality document. The EIS will be prepared in Microsoft Word. The person who will provide the quality control for the final internal review of the draft sections should be identified.

Three draft copies of this document will be submitted to the Corps of Engineers (both electronically via email and in hard copy) for review one week after receiving the notice to proceed. Comments will be submitted to Battelle (including comments from EPA) within two days of receipt of the draft document. Three copies of the final document will be produced within three days of receipt of comments from the Corps of Engineers and submitted both electronically and in hard copy.

Task 10.2

The contractor shall be responsible for the preparation of Section 1.0 Purpose and Need of the EIS (refer to the attached outline). (The Corps of Engineers will prepare Sections 1.1 Purpose for Designating an Ocean Disposal Site, and Section 1.1.3 Agency Activities Leading to the RIS EIS. We will provide these Sections to the Contractor two weeks before the draft Sections are due). The Purpose and Need Section should include the background and legislative history of the Ocean Dumping Act and application to dredged material disposal in Rhode Island and southeastern Massachusetts waters. The Clean Water Act and other applicable laws should be referenced in this section (for alternative sites). A brief description should be provided of the disposal history in the Sound and southeastern Massachusetts with reference to historic and current disposal sites summarized. It is expected that data from Task 12 will be used. This section will also explain the discontinued disposal sites depicted on Rhode Island Sound (RIS) and southeastern Massachusetts nautical charts. Subsections of Section 1.0 and their tasks are described below:

1.1 Purpose for Designating an Ocean Disposal Site - A brief description of the action of site designation, the statues and regulation that authorize site designation, a statement that material will be disposed at the site only when permits are issued for disposal, and the criteria on which permit issuance is based. The background should briefly summarize the volumes of dredged material that went to historical sites (from Task 12) (how much was disposed at Brenton Reef, how much (total) currently goes to bulkhead or other destinations.

1.2 Need For Open Water Disposal Site - A description of the existing Federal civil works navigation projects in the Rhode Island and southeastern Massachusetts area should be included, as well as a summary of non-Federal dredging projects. What have been the consequences of no open water disposal site in the Rhode Island Sound region.

1.3 Regulatory Framework – In addition to the regulatory framework about site designation, a brief discussion on the permit process, including testing should also be discussed. The reader should be informed that a site designation does not imply that all material may be disposed at the site without a thorough review of the testing requirements and evaluation of the material before a permit may be issued (i.e. what does it take to meet the ocean dumping criteria). This section should also provide a background regarding the National Environmental Policy Act process and its requirements.

1.4 Proposed Action – Based on the information from Task 12 to give projections on future dredged material volumes, the proposed action will designate an appropriate ocean disposal site(s). Descriptions on the quantity, frequency of disposal, source and type of material (i.e. sand, silt, clay), and any changes from previous disposal should also be described. Again we need to state that only those projects that meet the criteria can be dumped.

1.5 Issues of Concern - Discuss issues of concern that arose during the scoping sessions and fish meetings. Each topic should have a brief explanation of the issue and how these issues will be addressed in the draft EIS.

Task 10.3

The contractor shall prepare the general section for the Affected Environment section of the EIS (Section 3.1 from the attached EIS outline) and the Environmental Consequences section (Section 4.2 from the attached EIS outline). Descriptions should be brief, concise, relevant and easily understandable by the reader. Identification of data gaps should be described. Use the existing Zone of Siting Feasibility (ZSF), determined in a previous task, to begin describing the geographic setting and extent of the study area, as well as general land use around the Sound. A brief description should be provided of the disposal history in Rhode Island Sound and southeastern Massachusetts and the physical and biological affects of these sites on the surrounding environment. This section will also explain the discontinued disposal sites depicted on RIS nautical charts. The text should also include a brief description of how the study areas were selected for each disposal site to be evaluated (i.e. from the Providence River EIS).

For the Affected Environment section of the EIS, a description of the natural resources found in the region of Rhode Island Sound and southeastern Massachusetts should also be written. Natural resources include water quality, geology, meteorology, physical oceanography, and the biota. Biota that is to be included in the description of the project area includes plankton, benthic invertebrates, fish and shellfish resources (including essential fish habitat), wildlife resources (marine and coastal birds, mammals, reptiles), and threatened and endangered species.

Another section should be devoted to socioeconomic resources in the region. Fishing activities, shipping and navigation, location of beaches, parks and natural areas, and historic and archaeological resources should be identified. Other human uses such as swimming, mining, cable/pipeline locations, recreational diving, military activities should also be described.

The general Rhode Island Sound setting should include a detailed description of the following:

- Physical Setting

Geography and Location: Describe the general setting, geography and land use of the RIS region.

History of Dredged Material Disposal in the Project Area: A brief description should be provided of the disposal history in the Sound and southeastern Massachusetts. This section will also explain the discontinued disposal sites depicted on RIS nautical charts.

Water Quality: Describe the general water quality of the Sound in terms of the sources/loads of pollutants and flushing rates. Describe the trends and gradients in the water column. The water quality classification of the Sound within the three mile limit will be described, as well as offshore areas.

Geology: Describe the general bathymetry, geological and sedimentary history of the Sound and mix of sediment types in the overall study area, including the large scale gradients in sediment grains size and chemistry.

Meteorology: Describe the major seasonal weather patterns that affect the Sound as they relate to temperature, precipitation and storm activity.

Physical Oceanography: Describe the stratification and water mass dynamics relative to the temperature/salinity regime, the large-scale tidal currents and seasonal current patterns for non-tidal currents and waves. Discuss sediment transport issues relative to erosion/sedimentation processes with existing URI/USGS data/maps, referencing the geological discussions above.

- Biological Resources

Plankton: Describe the seasonal patterns and distribution of phytoplankton and zooplankton (holoplankton and meroplankton) in the Sound. Discuss species dominance patterns and how they relate to environmental conditions (temperature, salininity, light and nutrients). Discuss any incidences of nuisance or toxic blooms in the Sound and their impact on resources and uses.

Benthos: Discuss the general community types that have been described in the Sound in terms of spatial distribution in the three basins and their seasonality. Provide a comprehensive list of species found in those community types. Describe how they relate to sediment type and reflect environmental conditions.

Fish and Shellfish Resources: Describe the Sound's species of fish and shellfish in terms of general spatial and seasonal movements and distribution. Using the trawl data and other sources, describe seasonal distribution for the most common species/groups noting any known spawning, nursery, and migrations areas utilizing the applicable NMFS and State fisheries data and any other pertinent studies or data sets. Discuss the various abundance patterns (catch (CPUE) and biomass) for the 25 most common and important species over regions of the Sound based on distribution map generated from the historic RI DEM and NMFS trawl data. Generate a comprehensive list of species and a life history table with pertinent information such as spawning habitat and time period, food habits, seasonal migratory activities and population status in the Sound. The species that are covered under the Essential Fish Habitat program shall be identified and included in the life history table.

Wildlife Resources: Describe birds, reptiles, mammals found in the Sound relative to their seasonality and spatial distribution. Again, generate a similar comprehensive species list and a life history table.

Endangered and Threatened Species: All Federally listed endangered or threatened species shall be identified and discussed relative to their distribution, seasonality, and current status, based on information provided by NMFS and USFWS. State endangered or rare species will also be listed based on information provided the respective State's Natural Heritage Programs. Life history tables shall be developed for these species.

- Socioeconomic Resources

General Fishing Activities: Describe the commercial and recreation species caught, general areas and seasons of fishing activities, practices, catches (trends) and economic value to the region. Describe the information obtained from our three fishing meetings.

Shipping/Navigation: Describe the major port areas, commodities and importance of commercial shipping to the local and regional economics. Describe the range of recreational boating and associated industries that exist in the Sound and its impact to the local and regional economies.

Beaches: Describe the public beaches throughout the Sound, their location and importance to users and the local economy. Generate a map of public beaches in both States. Generate a table reviewing major beaches and summarizing what is known about closures relative to local pollution inputs to the region.

Parks/Natural Areas: Map and tabulate Federal, State, and local parks near all shorelines of the Sound. Briefly describe what sensitive resources occur in these areas in a Table.

Historic/Archaeological Resources: Describe general resources in the Sound. Review State historical records, NOAA charts and side scan sonar to generally describe types of resources in the Sound.

Other Human Uses (Swimming, Recreational Diving, Cable/Pipeline Locations, Military, Mining Activities): Describe in general other uses of the Sound. Locate important areas on a map.

For the Environmental Consequences section of the EIS, impacts to the physical environment should be described, such as the impacts from the disposal mound, turbidity plume and loss of dredged material in the water column. References from DAMOS reports, the Long Island Sound long-term dredged material disposal site designation, and Corps reports, as well as other relevant literature should be used to describe impacts from disposal of dredged material on the physical environment. A description of the types of material that would be disposed at the disposal site should also be recorded.

The general impacts of open water disposal in Rhode Island Sound should include an assumption that future projects slated for disposal meet all the Ocean Dumping criteria (40 CFR 227.6; Green Book). The discussion of the general impacts of open water disposal should include (but is not limited to) a detailed impact discussion on the areas listed below.

- General Impacts of Open Water Disposal

Disposal process in open water: Describe in detail the formation and consolidation process of mounds from the work of Waterways Experiment Station (WES) and other related to the MDFATE model development.

Impacts to Water Column Impacts Relative to Suspended Solids and the Release of Sediment Contaminants: Review the literature on plume studies of dredged material in detail, describing the amount and size fraction of the sediments remaining in the water column.

Changes in the Sediment Environment: Describe the changes in sediment type (grain size) and likely chemical loading based on the range of projects likely to use the site (using information from dredging needs effort) that would meet the above-cited testing criteria.

Long-term Stability of the Disposal Mound: Describe the factors that affect the stability of dredged material deposits from the existing literature relative to erosional/depositional processes, wind and wave driven currents and general storm activity anticipated in the region. Relate to Meteorology write up cited above. Discuss the WES LTFATE models and what we know about what factors influence stability. Review relevant DAMOS studies.

Effects of Disposal on the Benthic Epi- and Infaunal Invertebrates and Fish (Vulnerable Life Stages): Describe typical forms and how tolerant they are to direct burial. Describe in detail the recolonization process (i.e. Rhoads and Young). Review the literature to describe the potential for bioaccumulation of sediment contaminants and impact of bioaccumulation to benthic organisms. Identify finfish life stages (e.g. egg or limited mobility or refuge seeking juveniles) or slow moving demersal (lifestage may also be impacted from direct burial).

Effects on Filter-feeder Invertebrates, Lobster and Fish: Review the literature habitat (re: burrows) and food source (benthic invertebrates). Review the literature to describe potential for bioaccumulation and impacts to marine resources and human health.

Effects on Marine Wildlife: Changes in habitat and food sources. Review the literature to describe potential for bioaccumulation and impacts to these resources.

Effects on Endangered and Threatened Species: Same as Wildlife section.

The Contractor will provide to the Corps and EPA a listing of the literature references that will be reviewed for the above effort.

- General Impacts of Upland Disposal

The Contractor shall provide a detailed summary of potential impacts to land use and resources that broadly apply to typical upland sites or, discuss a range of site conditions. The impacts of upland disposal and/or the creation of beneficial use sites on surrounding land uses, zoning, riparian rights, and water access will be presented. The Contractor shall review the existing literature (particularly the available NAE/WES documents), liberally citing examples of impacts noted on example sites. Available landfills and brownfields shall be reviewed as potential upland disposal alternatives. Loss of landfill space will be evaluated for any landfill disposal options. The secondary and indirect impacts of port development will be considered for any port development beneficial use options as well.

The Contractor shall describe a range of dredges that are used, typical logistical considerations, dewatering needs, transportation and handling costs, and tipping fees.

The Contractor will provide to the Corps and EPA a listing of the literature references that will be reviewed for the above effort.

General Impacts of Beneficial Use/Habitat Development Sties and Containment Sites

The Contractor shall provide a detailed summary of potential impacts to land use and resources that broadly apply to typical beneficial use, habitat development and containment sites, or discuss a range of site conditions. The Contractor shall review the existing literature, liberally citing examples of impacts noted on example sties.

The Contractor shall describe the range of dredges used, typical logistical considerations, dewatering needs, transportation and handling costs, environmental goals and constraints. As a separate category of impacts, the Contractor shall also describe all impacts associated with the implementation of any feasible treatment technologies.

Appendix C

Project Forms

Document Review Form

Date Submitted: _____ **Date Due/Time:** _____

Originator: _____ **Extension:** _____

Charge Number: _____ **Budgeted Hours/Actual:** _____

Document Title: _____

Initial Review: □ Technical □ Editorial □ Quality Assurance

□ Minor edits - marked directly in text

□ Substantial issues - marked directly in text

□ Major issues or concerns. marked in text and discussed below

□ Other _____

Comments or major issues/concerns:

_____ _____

Reviewer Date

Final Review:

□ All issues addressed

□ Issues remain unaddressed

□ Additional errors/issues noted as a result of revisions

□ Other

Comments:

_____ _____

Reviewer Date

Battelle
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Battelle
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Record of Telephone Conversation

By:

Date: **December 4, 2002**

With:

Time: **10:56 AM**

Organization:

Phone No:

Project:

Regarding:

Notes:

Follow-up Necessary: